

This resource assessment is designed to gather and display information specific to Rich County, Utah. This report will highlight the natural and social resources present in the county, detail specific concerns, and be used to aid in resource planning and target conservation assistance needs. This document is dynamic and will be updated as additional information is available through a multi-agency partnership effort. The general observations and summaries are listed first, followed by the specific resource inventories.

Contents

[Observations and Summary](#)

[Land Use](#)

[Resource Concerns - Soils](#)

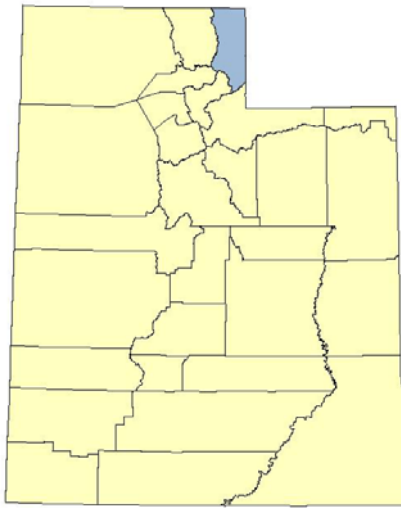
[Resource Concerns - Water](#)

[Resource Concerns - Air, Plants, Animals](#)

[Resource Concerns - Social and Economic](#)

[Survey Results](#)

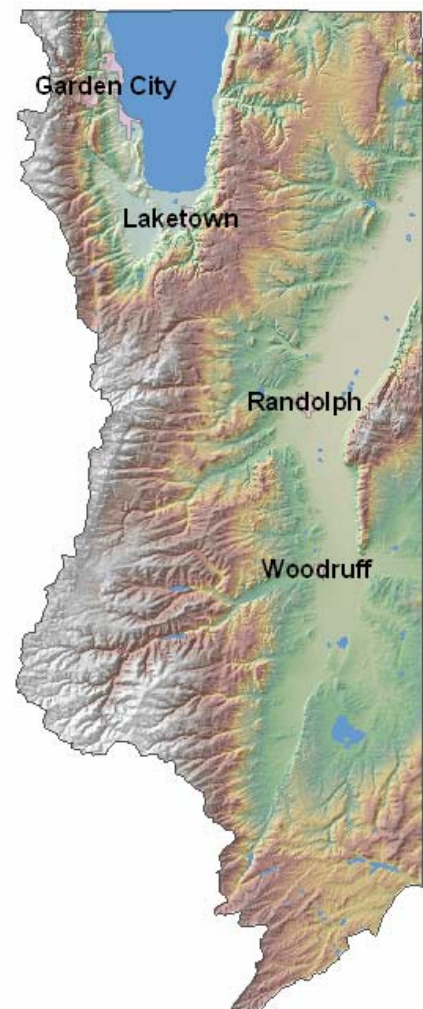
[Footnotes/Bibliography](#)



Introduction

Rich County is located at the northern most east portion of Utah. Bear Lake is located in Rich County and is shared with Idaho. The greatest number of visitors to the county are attracted to Bear Lake for water-related recreation and to enjoy its esthetic value. In January, fishing for the rare Bonneville Cisco is a major event for fishermen. No other lake in the continental United States offers such an opportunity.

All the communities within Rich County share two factors: they are all rural and remote from the larger urban areas of Utah. In 2003, the entire population of Rich County consisted of 2,079 individuals, one of the lowest county populations in the state. Median family income was \$40,603, or 20% below the state average of \$51,022. Rich County's racial makeup is primarily white: 97.3% of the total – ethnic population presence is significantly less than the state's average.



Equal Opportunity Providers and Employers.



Rich County consists of a total land area of 654,720 acres, or about 1,023 square miles. The average freeze free season is 55 days in the valleys, where most crops are grown. This short growing season limits the choice of crops grown to small grains, grass hay and alfalfa. There is a small raspberry industry along Bear Lake at Garden City. Frost has been reported throughout the year in nearly all parts of Rich County.

Elevations range from 6,500 to 8,700 feet.

Resource Assessment Outreach

In an effort to assess the conservation needs in Rich County, a number of outreach efforts were provided to obtain feedback from the public concerning individuals' conservation concerns. A survey was developed which asked questions about high, medium, and low priorities. Categories addressed the following areas:

- Air
- Agricultural
- Land Use
- Pest Management
- Soil
- Water
- Wildlife

The surveys were available at soil conservation meetings and a mailing was sent to approximately 60 individuals provided by the Bear River RC&D from a listing of landowners, city and county officials, and conservation support groups. Fifteen individuals responded to the survey, a 25 percent response rate. There were 13 male and 2 female respondents. All of them were over 45 years of age. In 2003, Rich County had a population of 2,079.

General Land Use Observations

Water Management

- Not enough irrigation water to supply existing needs. Improved delivery systems are needed.
- Improved water management practices are needed to make the best use of a limited resource.
- Projects to improve water quality have been implemented, but continued efforts are needed.

Rangeland

- Complications related to overgrazing include poor range condition, soil erosion and water quality issues.
- Control of noxious and invasive plants is an ever increasing problem.
- Management of forage and cover for wildlife habitats are of continued concern

Grass / Pasture / Hay Lands

- Complications related to overgrazing include poor pasture condition, soil compaction and water quality issues.
- Control of noxious and invasive plants is an ever increasing problem.

Animal Feeding Operations

- Nutrient management practices are being addressed. A concerted effort will continue to improve water quality and stream bank vegetation but continued financial and technical assistance is needed.

Row & Perennial (orchards / nurseries) Crops

- Residue, nutrient, water, and pest management are needed to control erosion and to protect water quality.

Urban Development

- Increased population and seasonal recreationists present urban/wildland wildfire interface concerns.
- Increased population and seasonal recreationists also are applying pressure regarding water rights and water quality issues

Resource Assessment Summary

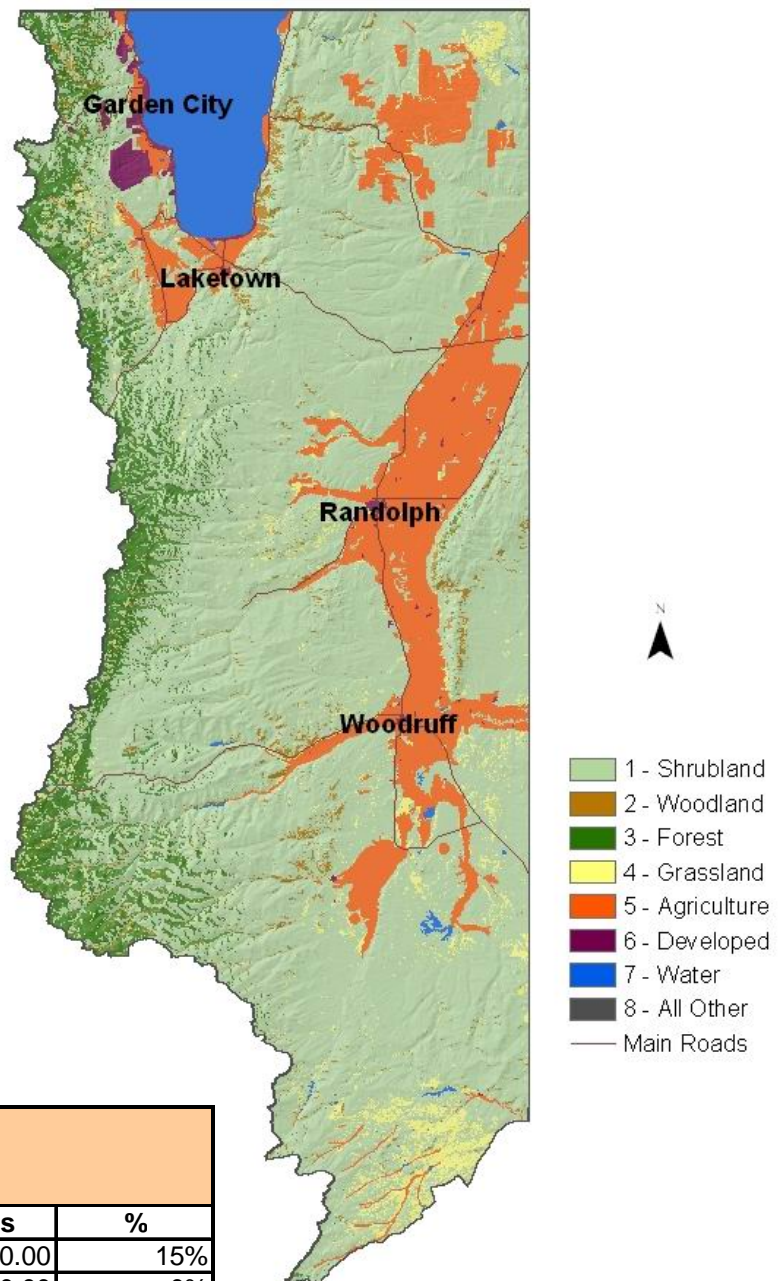
Categories	Concern high, medium, or low	Description and Specific Location (quantify where possible)
Air		
Air Pollution	Low	
Air Quality - AFO's	Low	
Regulatory Involvement	Medium	The strongly rural aspect of the area has fostered an attitude of independence and self-reliance that counters sharply to outside regulatory influence
Agriculture		
Animal Waste	Medium	Financial assistance is needed for installation of facilities to convey and store animal waste. Technical assistance is also required in order to provide land users with practical information regarding proper agricultural application of resultant wastes on irrigated lands. This problem is compounded by the short growing season in the area.
Grazing	High	Approximately 210,000 acres of private rangeland (in fair/poor condition) need improvements such as fencing, brush control, water development etc., in order to repair and sustain the resource base, requiring financial and technical assistance. Just as critical is the need to implement effective grazing management systems, which will require technical assistance.
Nutrient Management	Medium	This topic includes application of chemical wastes to irrigated lands and threats to the Bear River and its tributaries. Technical assistance is needed to provide landusers with the information they need to apply fertilizers at correct agronomic rates.

Preservation	High-Medium	The rural aspect of the area is valued by the residents, and is attractive to tourism, a potential source of revenue for the communities of Rich County. A current example of this type of opportunity is the proposed Shoshone ATV Trail, which would bring new visitors to Rich County
Productivity	Medium	
Protection	Medium	
Sustainability	High	There is interest in maintaining the current high quality of life in Rich County, which includes protection of the resource base that sustains it. Land users are also concerned that the sustainability of the resource base be maintained for future generations.
Genetics (seed)	Medium	
Precision Agriculture	Low	
Land Use		
Cultural Resource Conservation	Medium	
Forestry	Medium	
Grazing (land Use)	High	There is interest in all issues surrounding grazing, the primary land use in Rich County. Here, this topic includes threats to grazing rights, recreation vs. grazing, etc.
Open Space	Medium	
Pasture Management	High	There are needs for pasture improvements to manage grazing and irrigation water application. Pasture and hayland use constitute the number two land use in Rich County.
Recreation	High-Medium	Urban development increasing with increased use of water sports with the use of Bear Lake.
Urban Development	Low	
Wetlands	Medium	
Wildfire Hazards	Medium	People are building second and summer homes in the wildlands of Rich County. There is a need to provide assistance to home owners in these areas in order to protect their property and lives against catastrophic wildfire (learn to be "firewise").

Pest Management		
Insect Pest Control	High	
Plant Pest Control	High	The local Cooperative Weed Management Area group (Highland CWMA) needs financial assistance to carry out their mission of weed control/eradication within Rich County, as do private land users. Black Henbane, Dalmatian Toadflax, Poison Hemlock and other noxious weeds continue to infest the area and will continue to require outside sources of funding in order to control/eradicate these plant pests.
Fungus Disease Control	Medium	
Non-Chemical Pest Control	Medium	
Bees (conservation)	Medium	
West Nile Virus	High	From a human safety and health view point, this new threat is magnified due to the large wetland areas of the county available for mosquito reproduction (a primary vector of the virus).
Weed and Pest Control	High	Ditto above.
Soil		
Erosion	High	The primary source of sediment delivery to the Upper Bear River and its tributaries within Rich County is soil eroded from rangelands (grazing lands). Financial and technical assistance is needed to implement improvements on approximately 210,000 acres of private rangelands in fair and poor condition in order to reduce the effect of erosive (natural) flows of water on these lands (see Grazing – (Agricultural) above).
Fertility	High	
Mined Land Reclamation	Low	
Salinity	Medium	
Soil Quality	Medium	
Wildfire Re-vegetation	High	Technical and financial assistance is needed to revegetate range and forestlands following catastrophic wildfires that periodically affect the area.
Water		
Water Conservation	High	Water delivery systems improvements and improved management practices are needed by land users in order to make the best use of a limited resource, even in normal water years. Normally, in seven years out of 10, the irrigation water supply runs out before the growing season (90 days) is over. The two major reservoirs in the county generally run dry by mid July.
Flooding	Medium	
Groundwater	Medium	

[Back to Contents](#)

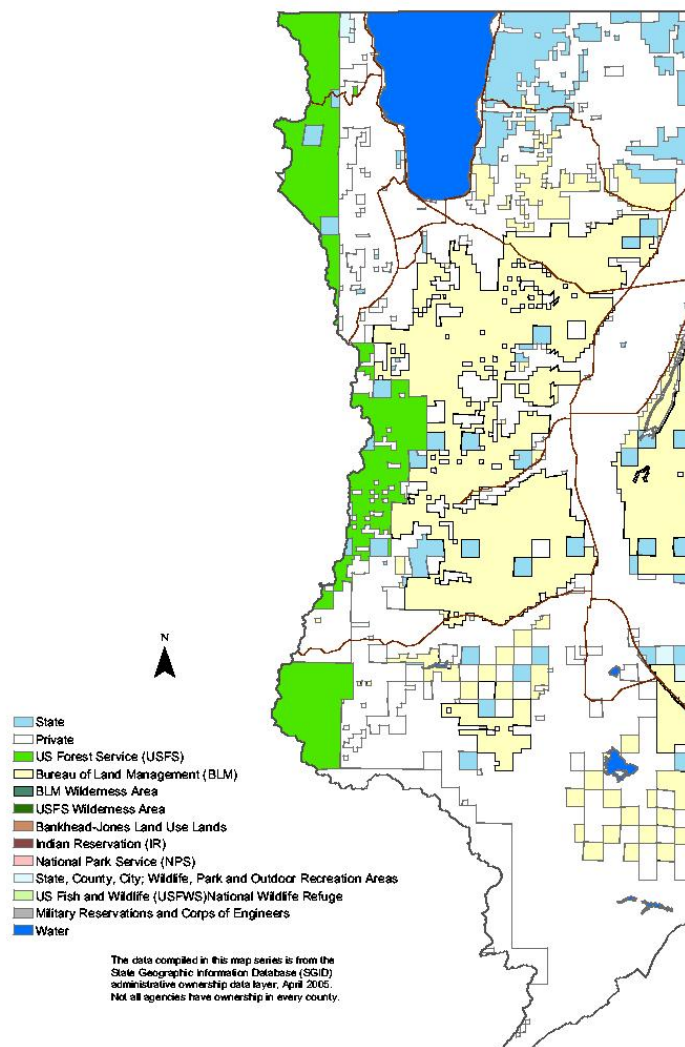
Irrigation Water Management	High	See notes under Water Conservation above. The judicious application of water to crops can expand existing (limited) quantities by 30 percent. There is a need for financial and technical assistance to implement an effective program of irrigation water management within Rich County. Most irrigation water is conveyed by inefficient flood systems which waste 70 to 80 percent of the water applied.
Riparian Areas	High	Riparian issues are of concern to Rich County land users and others due to grazing use: since these areas are so productive, sustainable use is constantly threatened by over use. Protection of over used areas and enhancement for sustainable use of this resource will require financial and technical assistance in the future.
Storm Water Management	Low	
Tile Drains	Low	
Urban Water Conservation	Low	
Water Availability	High	Since the irrigation season is longer than the existing water supply, there is high interest in all aspects of water conservation and development within Rich County. See Water Conservation (drought) and Irrigation Water Management – (Water) above.
Water Rights	High	Water users are sometimes concerned that individual (and sometimes inefficient) use of water will result in legal action to take water from them. Land and water users sometimes feel their water and private property rights are threatened by interests outside of the area: currently there is a proposal to divert local waters to the Wasatch Front for culinary use.
Water Quality	High	Rich County has relatively unimpaired water quality for current uses. Primary threats to water quality come from nutrient application on croplands finding its way into the Upper Bear River and its tributaries through irrigation water and rainwater/snowmelt.
Wildlife		
Biodiversity	High-Medium	
Fisheries	High-Medium	The waters of Bear Lake are home to three endemic fish species that local residents are in favor of conserving for future generations.
Endangered Species	Medium	In addition to the endemic fishes mentioned above, there is local interest in maintaining sustainable populations of the Greater Sage-grouse. Technical and financial assistance is needed for this effort.
Upland Game	Medium	
Wetlands	Medium	Wetland areas within the county are typically extremely productive of grazing forage and wildlife. Technical and financial assistance is needed to sustain this productive resource.
Wildlife Habitats	Medium	Residents are interested in maintaining sustainable populations of deer, elk, sage-grouse, trout, etc. Technical and financial assistance is needed in this effort.
Wildlife Population Management	High	Local residents want to maintain the current sustainable populations of Sage-grouse, deer, elk, etc., that inhabit the diverse ecological sites that make up Rich County. If healthy range and forest lands are created and maintained, this can continue into the future. This also represents an untapped source of revenue for area residents (fee hunting).

Land Use/Land Cover

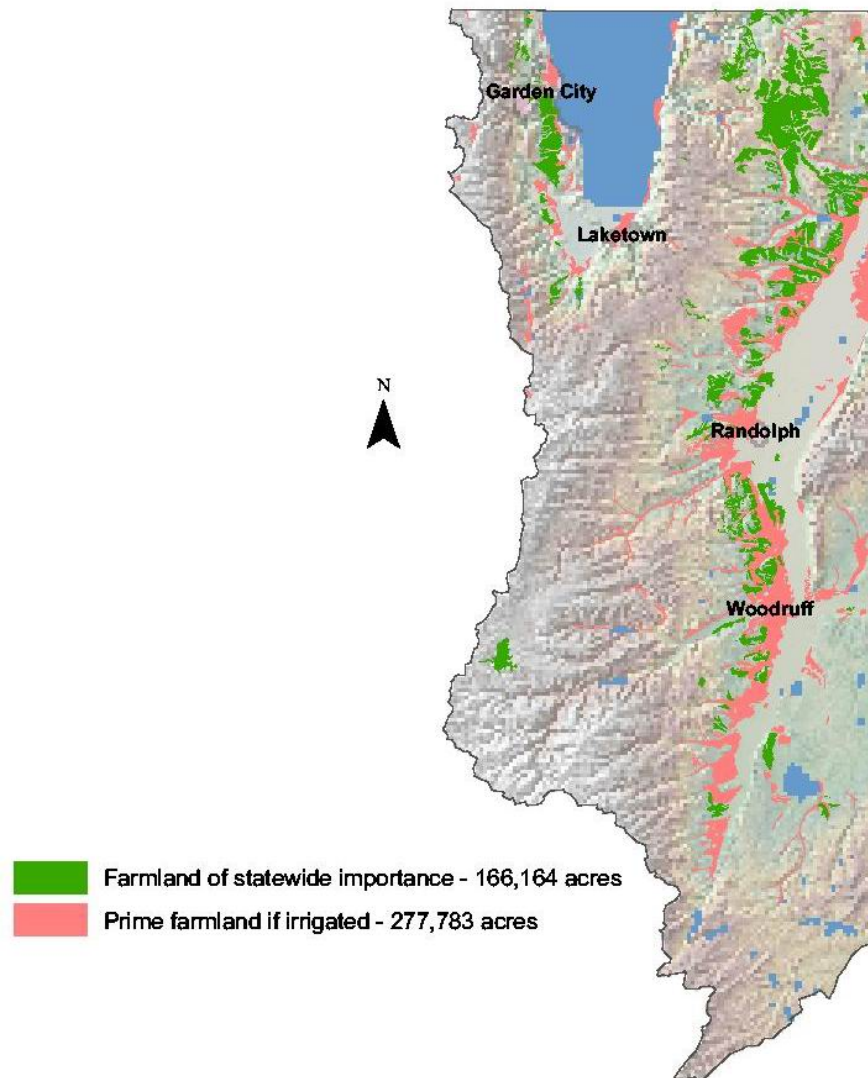
Land Cover/Land Use		
	Acres	%
Forest	100000.00	15%
Grain Crops	2900.00	0%
Conservation Reserve Program	10000.00	2%
Grass/Pasture/Haylands	26120.00	4%
Orchards/Vineyards	25.00	0%
Row Crops	0.00	0%
Shrub/Rangelands	460650.00	70%
Water	35145.00	5%
Wetlands*	18680.00	3%
Developed**	1200.00	0%
Rich County Total***	654720.00	100%
*These are hydric soil acres. **Incorporated town acres. ***Includes private, state and federal ownership.		

Special Considerations for Rich County:

- There are 17 lakes and reservoirs in Rich County that are used for irrigation, recreation and as a source for stock water. They contain 727,718 acre feet of water – Bear Lake makes up 97% of this total (no irrigation water drawn from Bear Lake is used in Rich County). Neponset, Woodruff Creek, and Birch Creek make up most of the remaining 3%.
- There are approximately 316,320 acres of private land in Rich County; the remaining acres (see total in table above) are BLM, USFS, State and Bureau of Reclamation acres.
- Root disease of raspberry plants have reduced the acres previously planted (approximately 50) to half. Raspberries develop a root disease that results in not bearing fruit and requires the replanting of new plants.
- The nearly 48,000 acres of irrigated acres listed in the table above could be increased to nearly 59,000 by the use of adapted species and implementation sound irrigation water management methods.
- There are 43,360 acres of Prime Farmland within Rich County, according to the Rich County Soil Survey.

Land Ownership

Prime & Unique Farm Land



Prime farmland

Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion.

Unique farmland

Land other than prime farmland that is used for the production of specific high-value food and fiber crops...such as, citrus, tree nuts, olives, cranberries, fruits, and vegetables

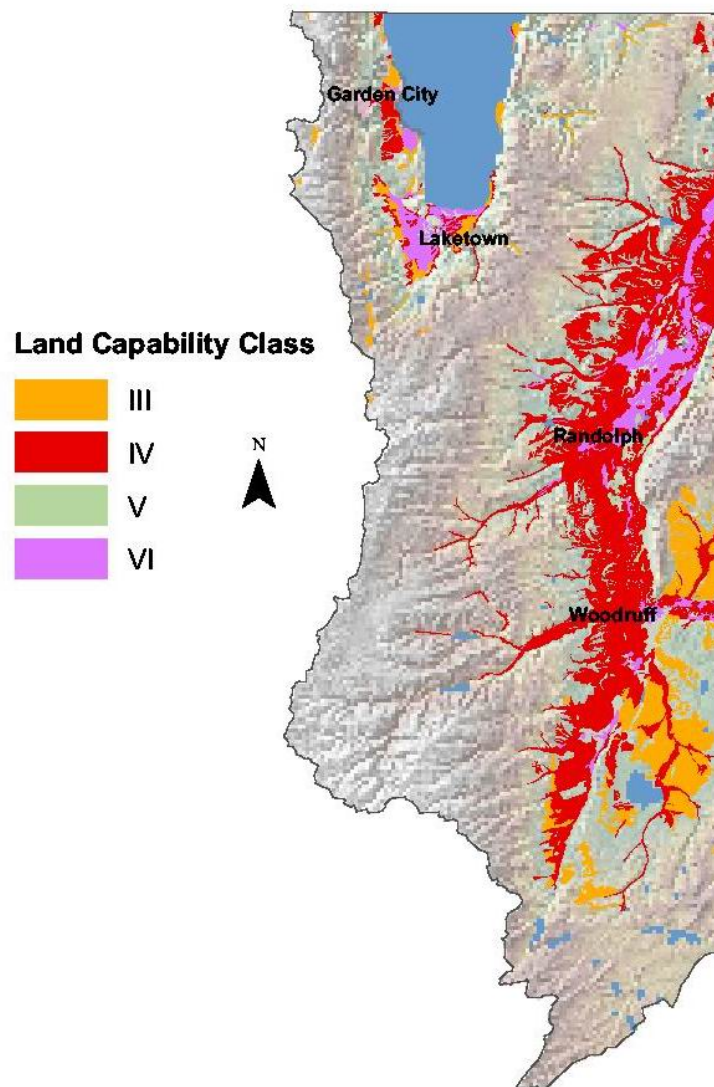
Additional farmland of statewide or local importance

Land identified by state or local agencies for agricultural use, but not of national significance

Resource Concerns – SOILS

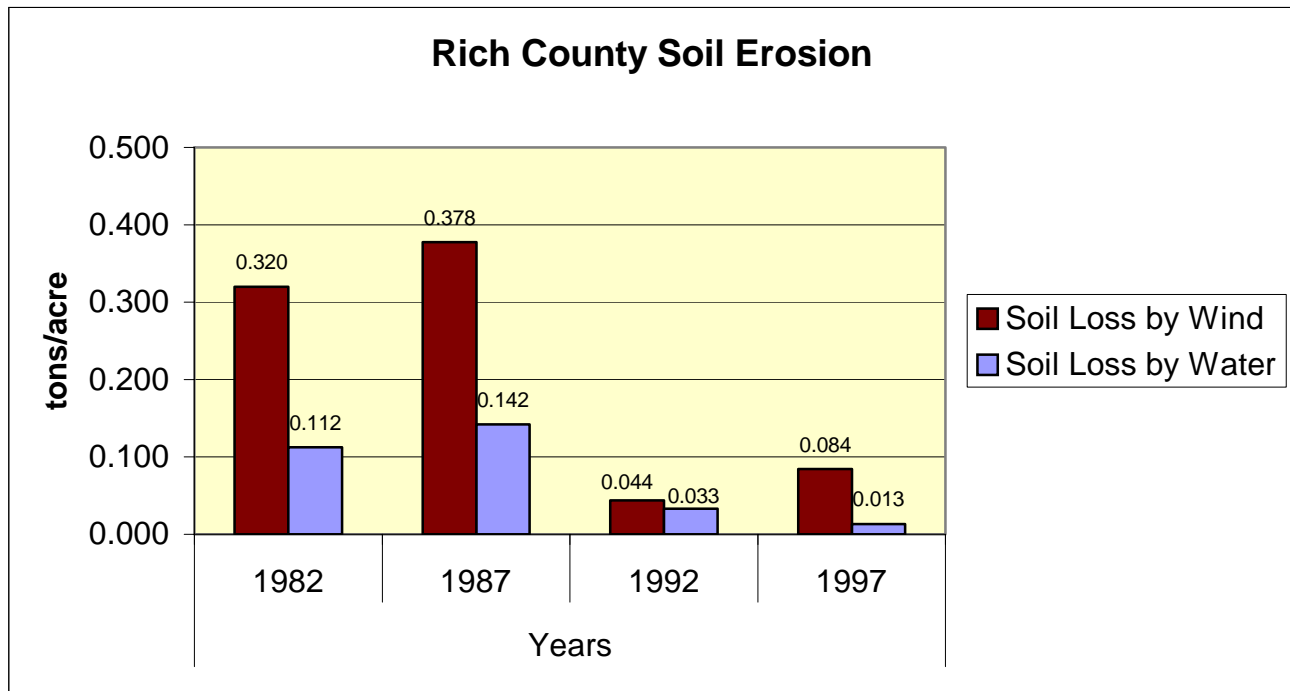
Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Soil Erosion	Sheet and Rill			x	x	x									x	
	Wind														x	
	Ephemeral Gully				x	x										
	Classic Gully				x	x										
	Streambank				x	x										
	Shoreline															
	Irrigation-induced	x	x	x												
	Mass Movement															
	Road, roadsides and Construction Sites														x	
Soil Condition	Organic Matter Depletion	x	x													
	Rangeland Site Stability				x											
	Compaction	x	x	x												
	Subsidence															
	ContaminantsSalts and Other Chemicals	x														
	Contaminants: Animal Waste and Other OrganicsN	x	x	x												
	Contaminants: Animal Waste and Other OrganicsP	x	x	x												
	Contaminants: Animal Waste and Other OrganicsK	x	x	x												
	Contaminants : Commercial FertilizerN	x		x												
	Contaminants : Commercial FertilizerP	x	x													
	Contaminants : Commercial FertilizerK															
	ContaminantsResidual Pesticides	x														
	Damage from Sediment Deposition															

Land Capability Class on Cropland and Pastureland



		Acres	Percentage
Land Capability Class (Irrigated Cropland & Pastureland Only)	I - slight limitations	0	0%
	II - moderate limitations	0	0%
	III - severe limitations	30,330	21%
	IV - very severe limitations	92,638	65%
	V - no erosion hazard, but other limitations	1,091	1%
	VI - severe limitations, unsuited for cultivation, limited to pasture, range, forest	17,601	12%
	VII - very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	0%
	VIII - misc areas have limitations, limited to recreation, wildlife, and water supply	0	0%

Soil Erosion on Cropland

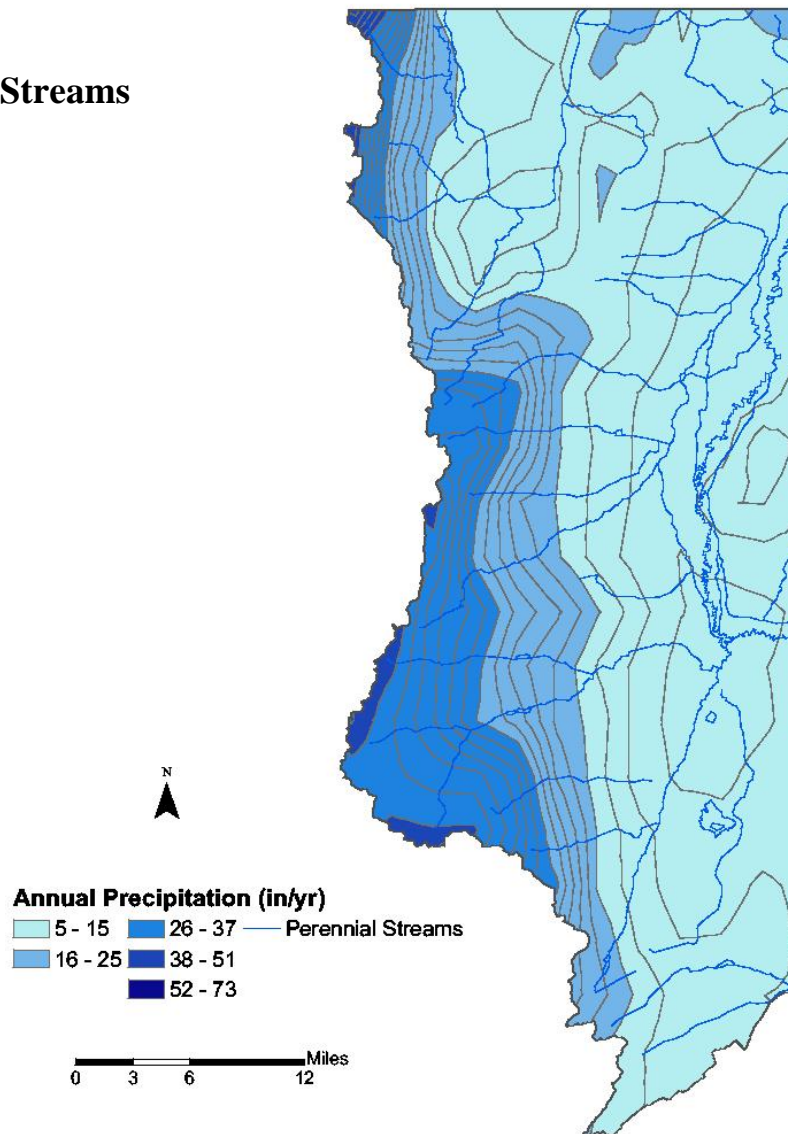


- ❖ Sheet and rill erosion by water on croplands and pasturelands have been reduced substantially from 1982 to 1997.
- ❖ Controlling erosion not only sustains the long-term productivity of the land, but also affects the amount of soil, pesticides, fertilizer, and other substances that move into the nation's waters.
- ❖ Through NRCS programs many farmers and ranchers have applied conservation practices to reduce the effects of erosion by water. As a result, erosion rates on croplands and pasturelands fell over 50 percent from .112 to .013 tons/acre/year from 1982 to 1997.

Resource Concerns – WATER

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Water Quantity	Water Quantity – Rangeland Hydrologic Cycle	x	x	x			x		x	x						
	Excessive Seepage															
	Excessive Runoff, Flooding, or Ponding	x			x	x		x				x				
	Excessive Subsurface Water															
	Drifted Snow				x					x		x	x			
	Inadequate Outlets															
	Inefficient Water Use on Irrigated Land	x	x	x												
	Inefficient Water Use on Non-irrigated Land	x	x	x								x				
	Reduced Capacity of Conveyances by Sediment Deposition	x						x			x	x				
	Reduced Storage of Water Bodies by Sediment Accumulation															
	Aquifer Overdraft															
	Insufficient Flows in Watercourses	x	x	x								x	x	x		x
Water Quality, Groundwater	Harmful Levels of Pesticides in Groundwater															
	Excessive Nutrients and Organics in Groundwater											x	x	x		
	Excessive Salinity in Groundwater	x	x	x												
	Harmful Levels of Heavy Metals in Groundwater															
	Harmful Levels of Pathogens in Groundwater															
	Harmful Levels of Petroleum in Groundwater															
Water Quality, Surface	Harmful Levels of Pesticides in Surface Water															
	Excessive Nutrients and Organics in Surface Water	x	x													
	Excessive Suspended Sediment and Turbidity in Surface Water	x												x		
	Excessive Salinity in Surface Water															
	Water Quality – Colorado River Excessive Salinity															
	Harmful Levels of Heavy Metals in Surface Water															
	Harmful Temperatures of Surface Water								x				x	x		
	Harmful Levels of Pathogens in Surface Water															
	Harmful Levels of Petroleum in Surface Water															

Precipitation and Streams



		ACRES	ACRE-FEET
Irrigated Adjudicated Water Rights	Surface		
	Well		
	Total Irrigated Adjudicated Water Rights	0.00	0.00
Stream Flow Data	Woodruff Creek/Birch Creek	Total Avg. Yield	
	Bear River	Total Avg. Yield	163,000
	Big Creek	Total Avg. Yield	
	Swan Creek	Total Avg. Yield	
		MILES	PERCENT
Stream Data	Total Miles - Major (100K Hydro GIS Layer)	1,496	n/a
	303d (DEQ Water Quality Limited Streams)	314	21%

Irrigation Efficiency:		<40%	40 - 60%	>60%
Percentage of Total Acreage	Cropland	75%		25%
	Pastureland	100%		

Watersheds & Total Maximum Daily Load (TMDL)

Watershed Projects, Plans, Studies and Assessments			
NRCS Watershed Projects		NRCS Watershed Plans, Studies & Assessments	
Name	Status	Name	Status
Bear River	Ongiong		
DEQ TMDL's		NRCS Comprehensive Nutrient Management Plans	
Name	Status	Number	Status
	April 2006 Scheduled for Completion		Planned Implemented

AFO/CAFO

Animal Feeding Operations (AFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Mink	Other
No. of Farms		15				1
No. of Animals						

Potential Confined Animal Feeding Operations (PCAFO)						
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Mink	Other
No. of Farms		4				
No. of Animals						

Confined Animal Feeding Operations - Utah CAFO Permit					
Animal Type	Dairy	Feed Lot (Cattle)	Poultry	Swine	Other
No. of Permitted Farms					
No. of Permitted Animals					

Resource Concerns – AIR, PLANTS, ANIMALS

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Air Quality	Particulate matter less than 10 micrometers in diameter (PM 10)															
	Particulate matter less than 2.5 micrometers in diameter (PM 2.5)															
	Excessive Ozone															
	Excessive Greenhouse Gas: CO2 (carbon dioxide)															
	Excessive Greenhouse Gas: N2O (nitrous oxide)															
	Excessive Greenhouse Gas: CH4 (methane)															
	Ammonia (NH3)															
	Chemical Drift															
	Objectionable Odors										X					
	Reduced Visibility											X				
	Undesirable Air Movement											X				
	Adverse Air Temperature				X	X						X				
Plant Suitability	Plants not adapted or suited	X														
Plant Condition	Plant Condition – Productivity, Health and Vigor	X	X	X	X	X	X					X	X			
	Threatened or Endangered Plant Species: Plant Species Listed or Proposed for Listing under the Endangered Species Act	X	X	X	X	X		X	X	X			X			
	Threatened or Endangered Plant Species: Declining Species, Species of Concern	X	X	X	X	X		X	X	X			X			
	Noxious and Invasive Plants	X	X	X	X	X	X									
	Forage Quality and Palatability	X	X	X	X	X	X	X				X				
	Plant Condition – Wildfire Hazard				X	X	X	X				X				
Fish and Wildlife	Inadequate Food				X	X	X									
	Inadequate Cover/Shelter				X	X	X									
	Inadequate Water				X	X	X							X		
	Inadequate Space															
	Habitat Fragmentation				X	X	X							X		
	Imbalance Among and Within Populations															
	Threatened and Endangered Species: Species Listed or Proposed for Listing under the Endangered Species Act				X	X	X	X								
Domestic Animals	Inadequate Quantities and Quality of Feed and Forage	X	X	X	X	X	X	X								
	Inadequate Shelter				X	X	X	X								
	Inadequate Stock Water				X	X	X	X								
	Stress and Mortality			X	X	X	X	X								

Noxious Weeds

Utah Noxious Weed List

The following weeds are officially designated and published as noxious for the State of Utah, as per the authority vested in the Commissioner of Agriculture under Section 4-17-3, Utah Noxious Weed Act:

- Bermudagrass** (cynodon dactylon)
- Canada thistle (cirsium arvense)
- Diffuse knapweed (centaurea diffusa)
- Dyers woad (isatis tinctoria L)
- Field bindweed (Wild Morning Glory) (convolvulus arvensis)
- Hoary cress (cardaria drabe)
- Johnsongrass (sorghum halepense)
- Leafy spurge (euphorbia esula)
- Medusahead (taeniatherum caput-medusae)
- Musk thistle (carduus mutans)
- Perennial pepperweed (lepidium latifolium)
- Perennial sorghum (sorghum halepense L & sorghum alnum)
- Purple loosestrife (lythrum salicaria L.)
- Quackgrass (agropyron repens)
- Russian knapweed (centaurea repens)
- Scotch thistle (onopordum acanthium)
- Spotted knapweed (centaurea maculosa)
- Squarrose knapweed (centaurea squarrosa)
- Yellow starthistle (centaurea solstitialis)

Additional noxious weeds declared by Rich County (2003): Black Henbane, Dalmatian Toadflax, Poison Hemlock

Wildlife

The Utah Comprehensive Wildlife Conservation Strategy (CWCS) prioritizes native animal species according to conservation need. At-risk and declining species in need of conservation were identified by examining species biology and life history, populations, distribution, and threats. The following table lists species of greatest conservation concern in the county.

AT-RISK SPECIES				
	Common Name	Group	Primary Habitat	Secondary Habitat
FEDERALLY-LISTED				
Endangered:	Black-footed Ferret (extirpated)	Mammal	Grassland	High Desert Scrub
Threatened:	Bald Eagle	Bird	Lowland Riparian	Agriculture
	Canada Lynx	Mammal	Sub-Alpine Conifer	Lodgepole Pine
Candidate:	(None)			
Proposed:	(None)			
STATE SENSITIVE				
Conservation Agreement Species:	Northern Goshawk	Bird	Mixed Conifer	Aspen
	Bonneville Cutthroat Trout	Fish	Water - Lotic	Mountain Riparian
Species of Concern:	Bear Lake Sculpin	Fish	Water - Lentic	
	Bear Lake Springsnail	Mollusk	Wetland	
	Bear Lake Whitefish	Fish	Water - Lentic	
	Bobolink	Bird	Wet Meadow	Agriculture
	Bonneville Cisco	Fish	Water - Lentic	
	Bonneville Whitefish	Fish	Water - Lentic	
	Burrowing Owl	Bird	High Desert Scrub	Grassland
	California Floater	Mollusk	Water - Lotic	Water - Lentic
	Ferruginous Hawk	Bird	Pinyon-Juniper	Shrubsteppe
	Greater Sage-grouse	Bird	Shrubsteppe	
	Lewis's Woodpecker	Bird	Ponderosa Pine	Lowland Riparian
	Lyrate Mountainsnail	Mollusk	Mountain Shrub	Rock
	Pygmy Rabbit	Mammal	Shrubsteppe	
	Three-toed Woodpecker	Bird	Sub-Alpine Conifer	Lodgepole Pine
	Western Pearlshell	Mollusk	Water - Lotic	Mountain Riparian
	Western Toad	Amphibian	Wetland	Mountain Riparian
	White-tailed Prairie-dog	Mammal	Grassland	High Desert Scrub

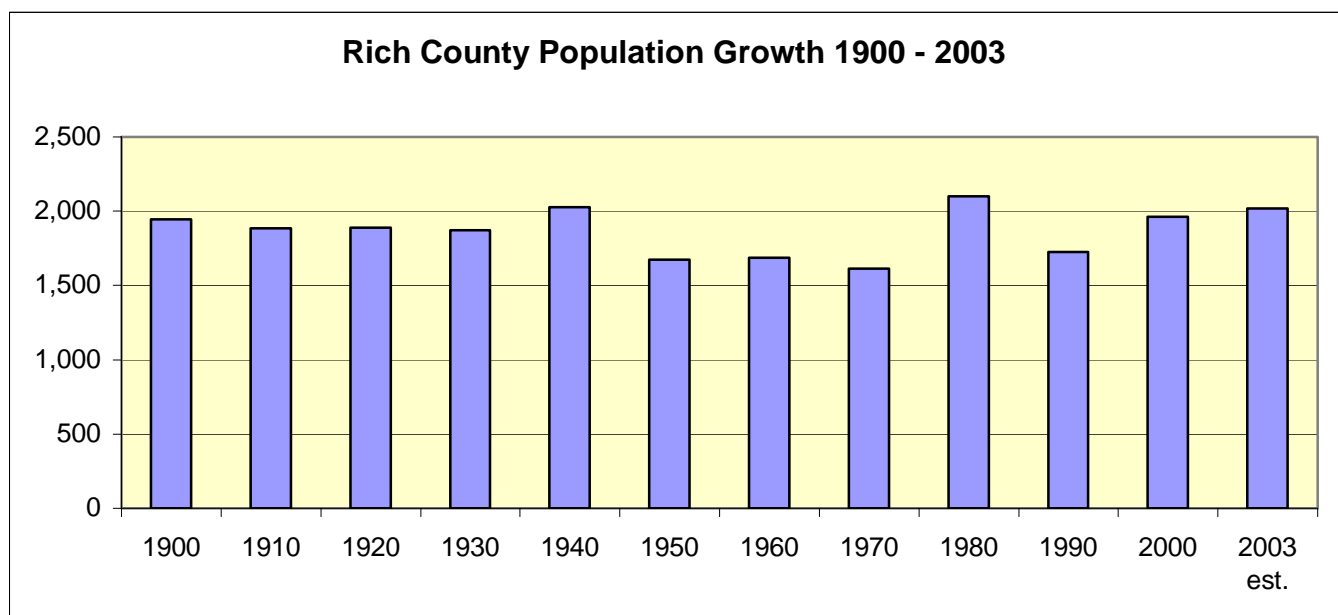
*Definitions of habitat categories can be found in the Utah Comprehensive Wildlife Conservation Strategy.

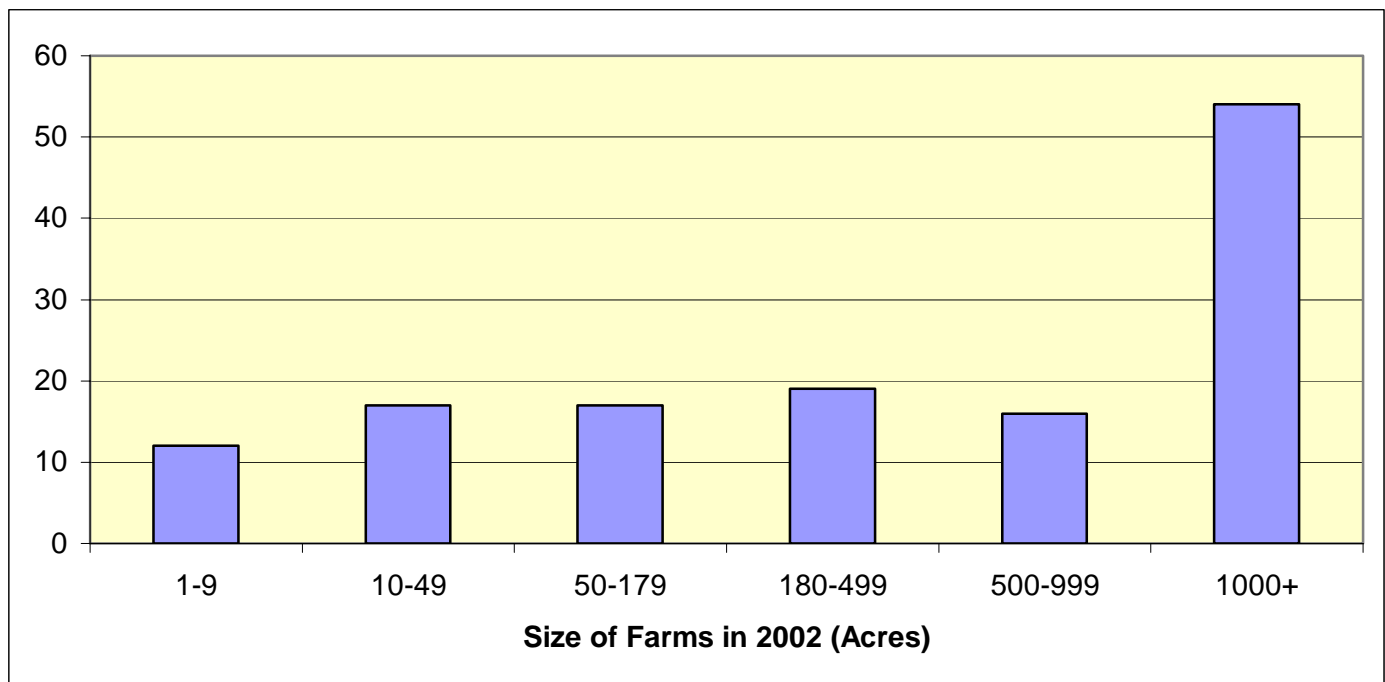
The Utah CWCS also prioritizes habitat categories based on several criteria important to the species of greatest conservation need. The top ten key habitats state-wide are (in order of priority):

- 1) **Lowland Riparian** (riparian areas <5,500 ft elevation; principal vegetation: Fremont cottonwood and willow)
- 2) **Wetland** (marsh <5,500 ft elevation; principal vegetation: cattail, bulrush, and sedge)
- 3) **Mountain Riparian** (riparian areas >5,500 ft elevation; principal vegetation: narrowleaf cottonwood, willow, alder, birch and dogwood)
- 4) **Shrubsteppe** (shrubland at 2,500 - 11,500 ft elevation; principal vegetation: sagebrush and perennial grasses)
- 5) **Mountain Shrub** (deciduous shrubland at 3,300 - 9,800 ft elevation; principal vegetation: mountain mahogany, cliff rose, bitterbrush, serviceberry, etc.)
- 6) **Water - Lotic** (open water; streams and rivers)
- 7) **Wet Meadow** (water saturated meadows at 3,300 - 9,800 ft elevation; principal vegetation: sedges, rushes, grasses and forbs)
- 8) **Grassland** (perennial and annual grasslands or herbaceous dry meadows at 2,200 - 9,000 ft elevation)
- 9) **Water - Lentic** (open water; lakes and reservoirs)
- 10) **Aspen** (deciduous aspen forest at 5,600 - 10,500 ft elevation)

Resource Concerns – SOCIAL AND ECONOMIC

Categories	Specific Resource Concern / Issue	Crop	Hay	Pasture	Grazed Range	Grazed Forest	Pasture Native/Naturalized	Wildlife	Watershed Protection	Forest	Headquarters	Urban	Recreation	Water	Mined	Natural Area
Social and Economic	Non-Traditional Landowners and Tenants									X		X	X			
	Urban Encroachment on Agricultural Land				X	X										
	Marketing of Resource Products	X	X	X					X							
	Innovation Needs								X			X	X	X		
	Non-Traditional Land Uses					X			X	X	X	X	X			
	Population Demographics, Changes and Trends										X	X	X			
	Special Considerations for Land Mangement (High State and Federal Percentage)				X	X	X					X	X			
	Active Resource Groups (CRMs, etc)				X	X	X					X	X	X		X
	Full Time vs Part Time Agricultural Communities					X						X	X			
	Size of Operating Units															
	Land Removed from Production through Easements															
	Land Removed from Production through USDA Programs	X	X	X												
Other																

Census and Social Data



Number of Farms: 135

Number of Operators:

- Full-Time Operators: 78
- Part-Time Operators: 57

Public Survey/Questionnaire Results:

Footnotes / Bibliography

1. Location and land ownership maps made using GIS shapefiles from the Automated Geographical Reference Center (AGRC), a Utah State Division of Information Technology. Website: <http://agrc.utah.gov/>
2. Land Use/Land Cover layer developed by the Utah Department of Water Resources. A polygon coverage containing water-related land-use for all 2003 agricultural areas of the state of Utah. Compiled from initial USGS 7.5 minute Digital Raster Graphic waterbodies, individual farming fields and associated areas are digitized from Digital Orthophotos, then surveyed for their land use, crop type, irrigation method, and associated attributes.
3. Prime and Unique farmlands derived from SURGO Soils Survey UT607 and Soil Data Viewer. Definitions of Prime and Unique farmlands from U.S. Geological Survey, http://water.usgs.gov/eap/env_guide/farmland.html#HDR5
4. Land Capability Classes derived from SURGO Soils Survey UT607 and Soil Data Viewer.
5. Tons of Soil Loss by Water Erosion data gathered from National Resource Inventory (NRI) data. Estimates from the 1997 NRI Database (revised December 2000) replace all previous reports and estimates. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
6. Precipitation data was developed by the Utah Climate Center at Utah State University using average monthly or annual precipitation <http://www.climate.usu.edu>
7. Irrigated Adjudicated Water Rights obtained from the Utah Division of Water Rights.
8. Stream Flow data from the Division of Water Quality Data Website Watershed information from the Division of Environmental Quality. Water Quality Division
9. Stream length data calculated using ArcMap and 100k stream data from AGRC and 303d waters from the Utah Department of Environmental Quality.
10. The 2003 noxious weed list was obtained from the State of Utah Department of Food and Agriculture. For more information contact Steve Burningham, 801-538-7181 or visit their website at http://ag.utah.gov/plantind/noxious_weeds.htm
11. Wildlife information derived from the Utah Division of Wildlife Resources' Comprehensive Wildlife Conservation Strategy (CWCS) (<http://wildlife.utah.gov/cwcs/>) and from the Utah Conservation Data Center (<http://dwrcdc.nr.utah.gov/ucdc/>).
12. County population data from the U.S. Census Bureau, Utah Quick Facts, <http://quickfacts.census.gov/qfd/states/49000.html>
13. Farm information obtained from the National Agricultural Statistics Service, 2002 Census of Agriculture. <http://www.nass.usda.gov/census/census02/volume1/index2.htm>